

REMARKS/ARGUMENTS

Claims 1-40 are pending in this application. Claims 1-32 stand substantively rejected. In this Amendment, claims 1, 8, 12, 20, 23-25, and 32 are amended, and claims 33-40 are withdrawn pursuant to a restriction requirement. Reconsideration of the claims is respectfully requested.

In an October 11, 2006 telephonic communication with the undersigned, the Examiner clarified the Office Action by indicating that claims 16-19 were intended to be included in the §102 rejection.

Claim Amendments

Support for the amendment to claim 1 can be found in the specification at, for example, paragraph [0046] and Fig. 4. Support for the amendment to claim 8 can be found in the specification at, for example, paragraph [0047] and Fig. 5. Support for the amendment to claim 12 can be found in the specification at, for example, paragraph [0049] and Fig. 7. Support for the amendment to claims 20 and 23-25 can be found in the specification at, for example, paragraph [0046] and Fig. 4. Support for the amendment to claim 32 can be found in the specification at, for example, paragraph [0047] and Figs. 5 and 6. No new matter is added.

Rejection Under 35 U.S.C. §112

Claims 23-25 were rejected under 35 U.S.C. §112, second paragraph, as allegedly being indefinite. This rejection is traversed. Amended claims 23-25 positively claim the tube opening. Withdrawal of this rejection is respectfully requested.

Rejection Under 35 U.S.C. §102

Claims 1, 4, 8, 12-22, and 32 were rejected under 35 U.S.C. §102(b) as allegedly anticipated by U.S. Patent No. 6,450,975 to Brennan et al. [“Brennan”]. This rejection is traversed.

According to MPEP 2131, to anticipate a claim, the cited reference must teach every element of the claim. Brennan fails to meet this test.

Amended Independent Claim 1

Amended claim 1 is drawn to an ultrasound catheter. The catheter includes, among other things, an ultrasound transmission member extending longitudinally through a lumen of a catheter body, and a guidewire tube that contacts the ultrasound member. Brennan does not describe a guidewire tube that contacts an ultrasound transmission member. Thus Brennan is not an anticipatory reference.

Amended Independent Claim 8

Amended claim 8 is drawn to an ultrasound catheter. The catheter includes, among other things, an ultrasound transmission member, a distal head, and a guidewire tube portion within the distal head having a longitudinal axis that is not parallel to an overall longitudinal axis of the ultrasound catheter. Brennan does not describe a guidewire tube portion within a distal head having a longitudinal axis that is not parallel to an overall longitudinal axis of the ultrasound catheter. For the sake of compact prosecution, Applicants submit that it would be improper to reject amended claim 8 for obviousness as further discussed below with regard to presently pending claim 26. Thus Brennan is not an anticipatory reference.

Amended Independent Claim 12

Amended claim 12 is drawn to an ultrasound catheter. The catheter includes, among other things, an ultrasound transmission member, a distal head, and a guidewire tube having a distal end that is flush with a distal end of the distal head. Brennan does not describe a guidewire tube having a distal end that is flush with a distal end of the distal head. For the sake of compact prosecution, Applicants submit that it would be improper to reject amended claim 12 for obviousness as further discussed below with regard to presently pending claim 30. Thus Brennan is not an anticipatory reference.

Independent Claim 16

Presently pending independent claim 16 is drawn to an ultrasound catheter. The catheter includes, among other things, an elongate flexible catheter body with a distal portion having at least one bend. The catheter also includes an ultrasound transmission member that conforms to the at least one bend in the distal portion of the catheter body. Brennan has not been shown to teach or suggest a catheter having an elongate flexible catheter body with a distal

portion having at least one bend, where the catheter also includes an ultrasound transmission member that conforms to the at least one bend in the distal portion of the catheter body. Thus Brennan is not an anticipatory reference.

Amended Independent Claim 20

Amended claim 20 is drawn to an ultrasound catheter. The catheter includes, among other things, a catheter body, a guidewire tube, and an ultrasound member. The guidewire tube includes at least one opening within the catheter body for providing contact between a guidewire extending through the guidewire tube and the ultrasound transmission member. The ultrasound transmission member passes through the guidewire tube via the at least one opening. Brennan does not show an ultrasound member that passes through a guidewire tube via an opening. Thus Brennan is not an anticipatory reference.

Amended Independent Claim 32

Independent claim 26 is drawn to an ultrasound catheter. The catheter includes, among other things, a catheter body, an ultrasound transmission member, a distal head, and a guidewire tube that extends partially through the distal head. Brennan describes a distal guide wire passage tube (182) in Fig. 6. However, Brennan's tube (182) does not extend partially through a distal head.

Presently pending claim 4 depends from amended claim 1. Presently pending claims 13-15 depend from amended claim 12. Presently pending claims 17-19 depend from pending claim 16. Presently pending claims 21 and 22 depend from amended claim 20. These dependent claims are allowable as depending from allowable base claims, as well as for the novel combination of elements they recite. Withdrawal of this rejection is respectfully requested.

First Rejection Under 35 U.S.C. §103

Claims 2, 3, and 9 were rejected under 35 U.S.C. §103(a) as allegedly obvious over Brennan in view of U.S. Patent No. 6,544,215 to Bencini et al. ["Bencini"]. This rejection is traversed.

According to MPEP 2143, a *prima facie* case of obviousness requires, among other things, that the cited references when combined must teach or suggest all of the claim elements. The combination of Brennan and Bencini do not meet this test.

Presently pending claims 2 and 3 depend from amended claim 1, which recites a guidewire tube that contacts an ultrasound member. Neither Brennan nor Bencini teach or suggest this claimed element, and thus the combination fails to teach all elements of dependent claims 2 and 3. Presently pending claim 9 depends from amended claim 8, which recites a guidewire tube portion within a distal head having a longitudinal axis that is not parallel to an overall longitudinal axis of the catheter body. Neither Brennan nor Bencini teach or suggest this claim element, and thus the combination fails to teach all elements of dependent claim 9.

Withdrawal of this rejection is respectfully requested.

Second Rejection Under 35 U.S.C. §103

Claims 6 and 10 were rejected under 35 U.S.C. §103(a) as allegedly obvious over Brennan in view of U.S. Patent No. 6,616,617 to Ferrera et al. ["Ferrera"]. This rejection is traversed.

According to MPEP 2143, a *prima facie* case of obviousness requires, among other things, that the cited references when combined must teach or suggest all of the claim elements. The combination of Brennan and Ferrera do not meet this test.

Presently pending claim 6 depends from amended claim 1, which recites a guidewire tube that contacts an ultrasound member. Neither Brennan nor Ferrera teach or suggest this claimed element, and thus the combination fails to teach all elements of dependent claim 6. Presently pending claim 10 depends from amended claim 8, which recites a guidewire tube portion within a distal head having a longitudinal axis that is not parallel to an overall longitudinal axis of the catheter body. Neither Brennan nor Ferrera teach or suggest this claim element, and thus the combination fails to teach all elements of dependent claim 10. Withdrawal of this rejection is respectfully requested.

Third Rejection Under 35 U.S.C. §103

Claims 26-31 were rejected under 35 U.S.C. §103(a) as allegedly obvious over Brennan in view of U.S. Patent No. 5,221,255 to Mahurkar et al. [“Mahurkar”]. This rejection is traversed.

According to MPEP 2143, a *prima facie* case of obviousness requires, among other things, that there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to the artisan, to combine the references. Moreover, the references as combined must teach all claim elements. The combination of Brennan and Mahurkar do not meet this test.

Independent Claim 26

Presently pending claim 26 is drawn to an ultrasound catheter. The catheter includes, among other things, a catheter body, an ultrasound transmission member coupled with a distal head. The distal head includes a guidewire aperture in a center of a distal end of the distal head. The distal head also has a guidewire lumen extending through the distal head. The guidewire lumen has a different longitudinal axis than a longitudinal axis of the catheter body.

Brennan describes an ultrasonic angioplasty catheter having a catheter body (126), an ultrasound transmission member (114), and a distal head (124) having a guide wire aperture (140). See, e.g., Fig. 5. The guidewire aperture is not in the center of a distal end of the distal head.

Mahurkur describes a hemodialysis catheter having a conical tip (15) with an opening (16). According to the Office Action, the artisan would have been motivated to modify Brennan with Mahurkur’s central opening in order to provide a smoothly tapered distal most portion. Applicants disagree.

As depicted in Fig. 5, Brennan’s guide wire aperture (140) extends horizontally through an upper portion of distal head (124). If guide wire aperture (140) were lowered such that it extended horizontally through the center of distal head (124) as apparently suggested by the Office Action, the guidewire aperture (140) would not have a different longitudinal axis than a longitudinal axis of the catheter body, as presently claimed. Moreover, the distal head (124) of Brennan appears to be semi-spherical, in contrast to the tapering (116) of ultrasound transmission

member (114). Brennan does not teach or suggest a tapered distal head, and thus the underlying rationale for the proposed modification is not supported. Still further, it is submitted that, absent a showing to the contrary, neither Brennan nor Mahurkar teach or suggest that in order to have a smooth tip, an aperture therethrough must be centrally disposed.

Dependent Claim 29

Presently pending claim 29 recites that the guidewire lumen of the distal head includes a cavity in which a distal end of a guidewire tube is disposed. The Office Action alleges that Brennan's neck portion (128) of the distal head reads on this element. Applicants disagree. It is submitted neck portion (128) of Brennan's distal head is actually *part of* the distal head (see Brennan at col. 9, line 15), and not a separate element such as the presently claimed guidewire tube.

Dependent Claim 30

Presently pending claim 30 recites that the distal end of the guidewire tube is flush with the distal end of the distal head. As noted above, Brennan's neck portion (128) is part of the distal head. It is not a separate element such as the presently claimed guidewire tube.

Dependent Claim 31

Presently pending claim 31 recites that the distal end of the guidewire tube is disposed proximal to the distal end of the distal head. As noted above, Brennan's neck portion (128) is part of the distal head. It is not a separate element such as the presently claimed guidewire tube.

For the above, reasons, Applicants submit that a *prima facie* case of nonobviousness has not been made with regard to claims 26 and 29-31. Presently pending claims 27 and 28 depend from claim 26, and are therefore allowable as depending from an allowable base claim, as well as for the nonobvious combination of elements they recite. Withdrawal of this rejection is respectfully requested.

Fourth Rejection Under 35 U.S.C. §103

Claims 5, 7, and 11 were rejected under 35 U.S.C. §103(a) as allegedly obvious over Brennan and Ferrera and further as a matter of design choice. This rejection is traversed.

Applicants believe that claims 5 and 7 are intended to be rejected in view of Brennan and Bencini as a matter of design choice, and not Brennan and Ferrera. If this rejection is maintained, clarification is requested.

Regardless, as noted above, the combination of Brennan and Ferrera (or Bencini) fail to teach or suggest all elements of amended independent claims 1 and 8. Thus, any matter of design choice does not remedy the deficiencies of these references. Withdrawal of this rejection is respectfully requested.

Fifth Rejection Under 35 U.S.C. §103

Claims 20 and 23-25 were rejected under 35 U.S.C. §103(a) as allegedly obvious over U.S. Patent No. 5,474,530 to Passafaro et al. [“Passafaro”] in view of Brennan and further as a matter of design choice. This rejection is traversed.

According to MPEP 2143, a *prima facie* case of obviousness requires, among other things, that the references as combined must teach all claim elements. The combination of Passafaro and Brennan do not meet this test.

Amended Claim 20

Amended claim 20 is drawn to an ultrasound catheter. The catheter includes, among other things, a guidewire tube and an ultrasound transmission member. The tube has an opening for providing contact between a guidewire extending through the guidewire tube and the ultrasound transmission member. The ultrasound transmission member passes through the guidewire tube via the at least one opening to contact the guidewire.

It has not been shown that Passafaro or Brennan teach an ultrasound transmission member that contacts the guidewire. Thus, a *prima facie* case of obviousness has not been established.

Presently pending claims 23-25 depend from claim 20 and are therefore allowable as pending from an allowable base claim, as well as for the nonobvious combination of elements they recite. Withdrawal of this rejection is respectfully requested.

CONCLUSION

In view of the foregoing, Applicants believe all claims now pending in this Application are in condition for allowance. The issuance of a formal Notice of Allowance at an early date is respectfully requested.

If the Examiner believes a telephone conference would expedite prosecution of this application, please telephone the undersigned at 303-571-4000.

Respectfully submitted,

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